

In the Claims

Amend the claims as follows:

1-25. (cancelled)

26. (currently amended) A method for cooling fluids used in an engine of a motor vehicle, comprising:

providing a heat exchanger assembly comprising:

a radiator for cooling engine coolant having opposite front and rear faces through which cooling air flows, opposite upper and lower ends adjacent the faces, and sides adjacent the faces between the upper and lower ends;

a charge air cooler for cooling charge air having upper and lower portions, each charge air cooler portion having opposite front and rear faces through which cooling air flows, opposite upper and lower ends adjacent the faces, and sides adjacent the faces between the upper and lower ends, and including upper and lower manifolds extending across the upper and lower ends, respectively, of each charge air cooler portion, and fluid-carrying tubes extending substantially directly between the upper and lower manifolds of each charge air cooler portion,

the upper charge air cooler ~~portions~~ portion being disposed in overlapping relationship and adjacent to the upper end of the radiator with the upper and lower ends of the upper charge air cooler portion being oriented in the

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same direction as the upper and lower ends of the radiator, wherein the rear face at the upper end of the radiator is disposed adjacent the front face of the upper charge air cooler portion and the upper manifold of the upper charge air cooler portion is disposed adjacent the upper end of the radiator, the upper manifold of the upper charge air cooler portion receiving incoming compressed charge air to the charge air cooler,

the lower charge air cooler portion being disposed in overlapping relationship and adjacent to the lower end of the radiator with the upper and lower ends of the lower charge air cooler portion being oriented in the same direction as the upper and lower ends of the radiator, wherein the front face at the lower end of the radiator is disposed adjacent the rear face of the lower charge air cooler portion and the lower manifold of the lower charge air cooler portion is disposed adjacent the lower end of the radiator, cooled compressed charge air exiting the charge air cooler through the lower manifold of the lower charge air cooler portion, the lower end of the upper charge air cooler portion being in line with and opposite the upper end of the lower charge air cooler portion,

the charge air cooler portions being operatively connected by a conduit extending from the lower manifold at the lower end of the upper charge air cooler portion and around a side of the radiator, intermediate the radiator ends, to the upper manifold at the upper end of the lower charge air cooler portion such that the charge air may flow through the conduit between the lower

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manifold of the upper charge air cooler portion and the upper manifold of the lower charge air cooler portion;

flowing the engine coolant through the radiator from the upper end to the lower end thereof;

flowing the charge air in sequence in through the upper manifold of the upper charge air cooler portion, the tubes of the upper charge air cooler portion, the lower manifold of the upper charge air cooler portion, the conduit extending from the lower manifold of the upper charge air cooler portion and around a side of the radiator intermediate the radiator ends to the upper manifold of the lower charge air cooler portion, the upper manifold of the lower charge air cooler portion, the tubes of the lower charge air cooler portion, ~~and~~ the lower manifold of the lower charge air cooler portion, and to an air intake manifold of the engine; and

flowing cooling air through the heat exchanger assembly such that the cooling air flows sequentially first through the upper end of the radiator and subsequently through the upper charge air cooler portion, and the cooling air also flows sequentially first through the lower charge air cooler portion and subsequently through the lower end of the radiator, to cool the engine coolant in the radiator and the charge air in the charge air cooler portions.

27. (previously presented) The method of claim 26 wherein the dimension between the upper and lower ends of the charge air cooler portions is less than the dimension from one side of the charge air cooler portions to the other side of the charge air cooler

portions, such that the fluid-carrying tubes extend across the shorter dimension of the faces of the charge air cooler portions, and wherein, in each charge air cooler portion, the charge air flows between the upper manifold and the lower manifold through the tubes extending across the shorter dimension of the face thereof.

28. (previously presented) The method of claim 26 wherein the radiator includes fluid-carrying tubes extending in the same direction as the fluid-carrying tubes of each of the charge air cooler portions, and wherein the engine coolant flows through the radiator fluid-carrying tubes.

29. (previously presented) The method of claim 26 further providing at least one of the sides or ends of the radiator extending outward of a side or end of one of the charge air cooler portions, and wherein the cooling air flows through the outwardly-extending radiator side or end without flowing through the charge air cooler portions.

30. (previously presented) The method of claim 26 further providing the upper end of the radiator extending outward of the upper end of the upper charge air cooler portion, and wherein the cooling air flows through the outwardly-extending radiator upper end without flowing through the charge air cooler portions.

31. (previously presented) The method of claim 26 further providing the upper end of the radiator extending outward of the upper end of the upper charge air cooler portions

and the lower end of the radiator extending outward of the lower end of the lower charge air cooler portion, and wherein the cooling air flows through the outwardly-extending radiator upper and lower ends without flowing through the charge air cooler portions.

32. (previously presented) The method of claim 26 further providing at least one of the sides or ends of one of the charge air cooler portions extending outward of a side or end of the radiator, and wherein the cooling air flows through the outwardly-extending charge air cooler sides or ends without flowing through the radiator.

33. (currently amended) The method of claim 26 wherein the charge air cooler portions are operatively connected by conduits such that the charge air may flow between the lower manifold of the upper charge air cooler portion and the upper manifold of the lower charge air cooler portion around both sides of the radiator, intermediate the radiator ends.

34. (cancelled)

35. (new) A method for cooling fluids used in an engine of a motor vehicle, comprising:

providing a heat exchanger assembly comprising:

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a radiator for cooling engine coolant having opposite front and rear faces through which cooling air flows, opposite upper and lower ends adjacent the faces, and sides adjacent the faces between the upper and lower ends;

a charge air cooler for cooling charge air having upper and lower portions, each charge air cooler portion having opposite front and rear faces through which cooling air flows, opposite upper and lower ends adjacent the faces, and sides adjacent the faces between the upper and lower ends, and including upper and lower manifolds extending across the upper and lower ends, respectively, of each charge air cooler portion, and fluid-carrying tubes extending substantially directly between the upper and lower manifolds of each charge air cooler portion,

the upper charge air cooler portion being disposed in overlapping relationship and adjacent to the upper end of the radiator with the upper and lower ends of the upper charge air cooler portion being oriented in the same direction as the upper and lower ends of the radiator, wherein the rear face at the upper end of the radiator is disposed adjacent the front face of the upper charge air cooler portion and the upper manifold of the upper charge air cooler portion is disposed adjacent the upper end of the radiator, cooled compressed charge air exiting the charge air cooler through the upper manifold of the upper charge air cooler portion,

the lower charge air cooler portion being disposed in overlapping relationship and adjacent to the lower end of the radiator with the upper and lower ends of

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the lower charge air cooler portion being oriented in the same direction as the upper and lower ends of the radiator, wherein the front face at the lower end of the radiator is disposed adjacent the rear face of the lower charge air cooler portion and the lower manifold of the lower charge air cooler portion is disposed adjacent the lower end of the radiator, the lower manifold of the lower charge air cooler portion receiving incoming compressed charge air to the charge air cooler, the lower end of the upper charge air cooler portion being in line with and opposite the upper end of the lower charge air cooler portion,

the charge air cooler portions being operatively connected by a conduit extending from the lower manifold at the lower end of the upper charge air cooler portion and around a side of the radiator, intermediate the radiator ends, to the upper manifold at the upper end of the lower charge air cooler portion such that the charge air may flow through the conduit between the lower manifold of the upper charge air cooler portion and the upper manifold of the lower charge air cooler portion;

flowing the engine coolant through the radiator from the upper end to the lower end thereof;

flowing the charge air in sequence in through the lower manifold of the lower charge air cooler portion, the tubes of the lower charge air cooler portion, the upper manifold of the lower charge air cooler portion, the conduit extending from the upper manifold of the lower charge air cooler portion and around a side of the

radiator, intermediate the radiator ends, to the lower manifold of the upper charge air cooler portion, the lower manifold of the upper charge air cooler portion, the tubes of the upper charge air cooler portion, the upper manifold of the upper charge air cooler portion, and to an air intake manifold of the engine; and flowing cooling air through the heat exchanger assembly such that the cooling air flows sequentially first through the lower end of the radiator and subsequently through the lower charge air cooler portion, and the cooling air also flows sequentially first through the upper charge air cooler portion and subsequently through the upper end of the radiator, to cool the engine coolant in the radiator and the charge air in the charge air cooler portions.

36. (new) The method of claim 35 wherein the dimension between the upper and lower ends of the charge air cooler portions is less than the dimension from one side of the charge air cooler portions to the other side of the charge air cooler portions, such that the fluid-carrying tubes extend across the shorter dimension of the faces of the charge air cooler portions, and wherein, in each charge air cooler portion, the charge air flows between the upper manifold and the lower manifold through the tubes extending across the shorter dimension of the face thereof.

37. (new) The method of claim 35 wherein the radiator includes fluid-carrying tubes extending in the same direction as the fluid-carrying tubes of each of the charge air cooler portions, and wherein the engine coolant flows through the radiator fluid-carrying tubes.

38. (new) The method of claim 35 further providing at least one of the sides or ends of the radiator extending outward of a side or end of one of the charge air cooler portions, and wherein the cooling air flows through the outwardly-extending radiator side or end without flowing through the charge air cooler portions.

39. (new) The method of claim 35 further providing the upper end of the radiator extending outward of the upper end of the upper charge air cooler portion, and wherein the cooling air flows through the outwardly-extending radiator upper end without flowing through the charge air cooler portions.

40. (new) The method of claim 35 further providing the upper end of the radiator extending outward of the upper end of the upper charge air cooler portions and the lower end of the radiator extending outward of the lower end of the lower charge air cooler portion, and wherein the cooling air flows through the outwardly-extending radiator upper and lower ends without flowing through the charge air cooler portions.

41. (new) The method of claim 35 further providing at least one of the sides or ends of one of the charge air cooler portions extending outward of a side or end of the radiator, and wherein the cooling air flows through the outwardly-extending charge air cooler sides or ends without flowing through the radiator.

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42. (new) The method of claim 35 wherein the charge air cooler portions are operatively connected by conduits such that the charge air may flow between the upper manifold of the lower charge air cooler portion and the lower manifold of the upper charge air cooler portion around both sides of the radiator, intermediate the radiator ends.